

SIAM/APPLIED AND NUMERICAL ANALYSIS SEMINAR

Date: April 7, 2021

Speaker: Mengying Xiao

Title: Acceleration of nonlinear solvers for fluid flow problems

Abstract: This talk presents the behavior of an acceleration technique, known as Anderson acceleration, for solving steady fluid flow problems, like the motion of water, oil, and air. Although Anderson acceleration has been used in many applications, such as machine learning, geometric optimization, electronic structure computations, etc. the performance is a mystery since 1965. We will show some analytical results of two flow problems to discuss the performance of Anderson acceleration and verify them with a few numerical tests.